Exploring L2 Speech Accommodation: Convergence Patterns in Accommodating Similar and New L2 Categories

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Previous studies of L2 speech accommodation have shown that L2 speakers are able to accommodate toward L1 speakers (e.g. [1-7]), but studies on L2 speech accommodation still face a few challenges, such as lacking theories of L2 accommodation for L2 speakers with different proficiencies and the high inter- and intra-speaker variabilities. To address these gaps, this study proposes to distinguish two types of L2 accommodation: (1) accommodation of a similar L1-L2 category, where L2 speakers accommodate an L2 category that closely resembles an L1 category in their native phonological system, and (2) accommodation of a new L2 category, where L2 speakers accommodate an L2 category absent from their native phonological system. While existing phonetic convergence theories can explain the accommodation of a similar category, they fail to account for the accommodation of a new category.

To fill this gap, the present study investigates these two types of accommodation using speech data from intermediate Cantonese-English bilingual speakers. Two research questions were posed: (1) For L2 accommodation of a similar category, do L2 speakers converge more towards the L1 interlocutor when the phonetic dissimilarity between their vowels is larger? And (2) For L2 accommodation of a new category, can L2 speakers who have not yet formed the new L2 category still converge on the new L2 sound?

Nineteen Cantonese-English bilingual speakers (12 females; IELTS 6-8) participated in two identical experiments, one with a Received Pronunciation (RP) speaker and the other with a General American English (GenAmE) speaker. The experiments consisted of a pre-task, a map task, and a post-task. Convergence of THOUGHT and PATH vowels was examined to analyze L2 accommodation of a similar category, while fricatives [z] and [θ] were chosen to test L2 accommodation of a new category. A new measurement, the convergence rate%, was used to calculate the degree of convergence based on midpoint F1 and F2 values of the participants' and interlocutors' vowels. Auditory analysis determined the percentage of native realisation for fricatives [z] and [θ].

Results from Generalized Logistic Mixed Effects Models (GLMM) indicated a marginal significance ($p = 0.057$) for the THOUGHT vowel from the pre-task to map tasks, suggesting a trend of convergence. However, no significant convergence was found for the PATH vowel across tasks. Addressing RQ1, a significant correlation between the pre-distance (measured in the pre-task) and the difference in convergence rate% was found for both vowels in the RP condition, as shown in Figure 1. This implies that when L2 participants interacted with RP interlocutors, they tended to accommodate more towards the interlocutor in the map tasks as the phonetic dissimilarity increased.

To answer RQ2, participants were categorized into full-formation, partial-formation, and non-formation groups based on the percentage of native-[z]/[θ] realisation in the pre-tasks. Only participants in the non-formation group (i.e., the right panel of Figure 1) showed significant convergence from the pre-task to the map tasks ($p = .003$). No significant changes were observed for the full- and partial-formation groups. These findings suggest that L2 accommodation may bypass phonological constraints, which aligns with previous research by [4] and [8].

In conclusion, this study contributes to our understanding of L2 speech accommodation by distinguishing between accommodation of similar and new L2 categories and highlights the potential influence of phonetic dissimilarity and the formation of new L2 categories on L2 accommodation.
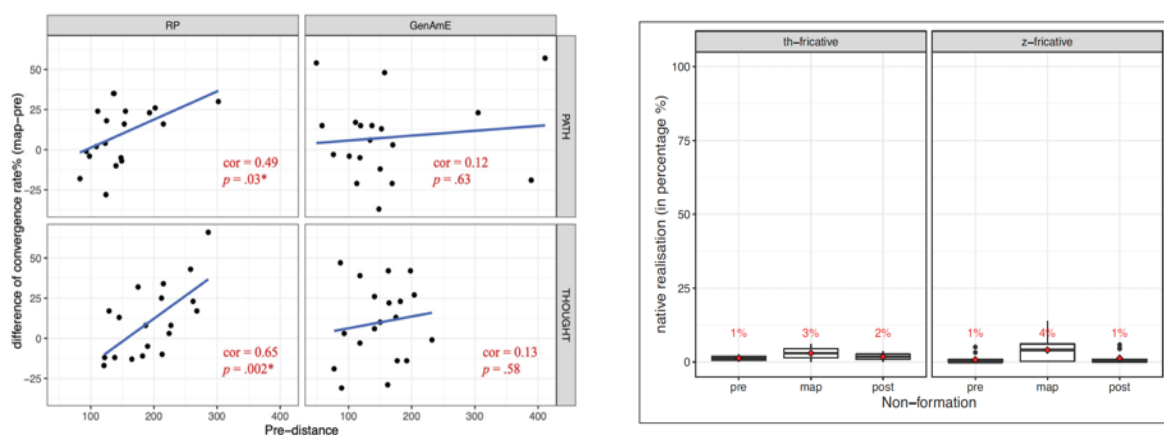
Figure 1. The correlation between the degree of convergence and phonetic dissimilarity (left panel); convergence of fricatives for the non-formation group (right panel).

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